

WHAT IS CLAIMED IS:

1. An electronic device having a communication function comprising:

means for setting predetermined information using
5 a predetermined communication profile from a plurality of communication profiles created based on setting information required for a communication used in a network, and performing communication connection according to the network setting; and

10 means for determining whether or not communication connection by the means for performing communication connection has been successfully established, and selecting a communication profile optimal for a current network environment from the plurality of communication
15 profiles when the connection has not been successfully established,

wherein the means for performing communication connection establishes communication connection using the selected communication profile.

20 2. The electronic device according to claim 1, further comprising:

means for detecting a change in a network environment;

25 means for, when the means for detecting the change in the network environment detects a change in a network environment, acquiring setting information required for a communication used in the detected

network environment and creating a communication profile based on the information; and

means for managing communication profiles created by the means for creating the communication profile,

5 wherein the means for performing communication connection performs network setting using a communication profile managed by the means for managing communication profiles and establishes communication connection according to the setting, and

10 means for diagnosing a communication profile determines whether or not communication connection by the means for performing communication connection has been successfully established, and selects a communication profile optimal for a current network
15 environment detected by the means for detecting the change in the network environment from the communication profiles managed by the means for managing communication profiles when the connection has not been successfully established.

20 3. The electronic device according to claim 1, further comprising a graphic user interface which designates whether selection of a communication profile used by the means for performing communication connection is performed manually or automatically.

25 4. The electronic device according to claim 1, wherein the means for diagnosing the communication profile further comprises means for displaying a list

of optimal communication profiles in an output manner and causing a user to select a communication profile from the list.

5 5. The electronic device according to claim 2, wherein the means for diagnosing the communication profile further comprises means for receiving a notification indicating that a normal communication cannot be secured from the means for performing communication connection; and

10 means for comparing a current network environment detected by the means for detecting the change in the network environment and a network environment according to a currently-selected communication profile on a reception of the notification, and selecting an optimal
15 communication profile used by the means for performing communication connection from the difference therebetween.

 6. The electronic device according to claim 2, wherein the means for diagnosing the communication
20 profile further comprises a graphic user interface which compares a current network environment detected by the means for detecting the change in the network environment and a network environment according to a currently-selected communication profile, and
25 presents the difference therebetween to a user.

 7. The electronic device according to claim 2, wherein the means for diagnosing the communication

profile further comprises changeover control means for enabling a wireless device when the means for detecting the change in the network environment detects a status where a LAN cable is disconnected, and disabling the wireless device when the means for detecting the change in the network environment detects a status where the LAN cable is connected.

8. The electronic device according to claim 2, further comprising means for performing edition of a communication profile including addition, deletion, and modification of a communication profile managed by the means for managing communication profiles.

9. The electronic device according to claim 2, wherein the means for detecting the change in the network environment comprises means for notifying the means for diagnosing the communication profile of a status of a change in the network setting when a LAN cable is disconnected, or when the LAN cable is connected, or when a wireless network is disconnected, or when the wireless network is detected, and

the means for diagnosing the communication profile further comprises means for changing a communication profile used by the means for performing communication connection when the means for detecting the change in the network environment detects a status where a LAN cable is disconnected or detects a status where the LAN cable is connected, alternatively detects a status

where a wireless network is disconnected or detects the wireless network.

10. The electronic device according to claim 2,
wherein the means for creating a communication profile
5 further comprises means for acquiring at least one
information of information on a status and setting of a
communication device, information on setting accompany-
ing the communication device, information on system
setting relating to the communication device as setting
10 information required for a communication, and creating
a communication profile based on the acquired
information.

11. The electronic device according to claim 2,
wherein the means for managing communication profiles
15 further comprises means for denoting a name or unique
icon designated by a user to a communication profile to
be managed, and storing and managing the same.

12. The electronic device according to claim 2,
wherein the means for creating a communication profile
20 acquires at least any item of information on a proxy
server or start homepage which relates to the Internet,
a DHCP, an IP address, a subnet mask, a default
gateway, a DNS server, or a WINS server which relates
to TCP/IP as setting information required for a
25 communication, and creating a communication profile
based on the acquired information.

13. A communication environment setting method of

an electronic device having a communication function
with a network connection comprising:

5 setting predetermined information using a
predetermined communication profile from a plurality
of communication profiles created based on setting
information required for a communication used in
a network, and performing communication connection
according to the network setting; and

10 determining whether or not communication
connection by the performing communication connection
has been successfully established, selecting
a communication profile optimal for a current network
environment from the plurality of communication
profiles when the connection has not been successfully
15 established, and changing over a communication profile
used in the communication connection to the selected
communication profile.

14. A communication environment setting method
comprising:

20 detecting a change in a network environment to be
used;

acquiring setting information required for a
communication used in the detected network environment
and creating a communication profile based on the
25 information, when a change in a network environment is
detected; and

managing the communication profile,

wherein the detecting the change in the network environment performs network setting using the communication profile and establishes communication connection according to the setting, and

5 the acquiring setting information determines whether or not communication connection has been successfully established, and selects a communication profile optimal for a detected current network environment from the communication profile when the
10 connection has not been successfully established.

15 15. The communication environment setting method according to claim 14, wherein the detecting the change in the network environment comprises notifying of a status of a change in the network setting when a LAN
15 cable is disconnected, or when the LAN cable is connected, or when a wireless network is disconnected, or when the wireless network is detected, and

20 the diagnosing the communication profile further comprises changing a communication profile used by the performing communication connection when the detecting the change in the network environment detects a status where a LAN cable is disconnected or detects a status where the LAN cable is connected, alternatively detects a status where a wireless network is disconnected or
25 detects the wireless network.

16. The communication environment setting method according to claim 14, wherein the diagnosing the

communication profile compares the detected current network environment setting and the network environment setting according to the communication profile which is currently selected, and selects a communication profile optimal for the detected current network environment from a difference therebetween, when a normal communication cannot be secured.

17. A computer-readable program causing a computer to execute network setting for performing communication, the program comprising:

program code for setting predetermined information using a predetermined communication profile from a plurality of communication profiles created based on setting information required for a communication used in a network, and performing communication connection according to the network setting; and

program code for determining whether or not communication connection by the performing communication connection has been successfully established, selecting a communication profile optimal for a current network environment from the plurality of communication profiles as a communication profile used in the network setting when the connection has not been successfully established.

18. The program according to claim 17, further comprising:

program code for detecting a change in a network

environment to be used;

program code for acquiring setting information required for a communication used in the detected network environment and creating a communication
5 profile based on the information, when a change in a network environment is detected; and

program code for managing the communication profile as a selectable communication profile according to the determination of communication connection.

10 19. The program according to claim 17, further comprising:

the program code for detecting the change in the network environment comprises program code for notifying of a status of a change in the network
15 setting when a LAN cable is disconnected, or when the LAN cable is connected, or when a wireless network is disconnected, or when the wireless network is detected, and

the program code for diagnosing the communication
20 profile further comprises program code for changing a communication profile used by the performing communication connection when the detecting the change in the network environment detects a status where a LAN cable is disconnected or detects a status where the LAN
25 cable is connected, alternatively detects a status where a wireless network is disconnected or detects the wireless network.

20. The program according to claim 18, wherein

the program code for diagnosing the communication profile receives notification that a normal communication cannot be secured, compares the detected current network environment setting and the network environment setting according to the communication profile which is currently selected, and selects a communication profile used in the network setting from a difference therebetween, when a normal communication cannot be secured.

5

10